Manchester W.C. 8/1

HYDROLOGICAL MEMORANDA No. 31

DEE AND DON, NORTH AND SOUTH ESK AND TAY RIVER PURIFICATION BOARD AREAS

1. Rainfall Averages for the standard 35 year-period, 1916-1950

The determination of 35-year averages, for the months and for the year, was carried out in three stages.

a. Sound, homogeneous records complete for the 35 years, 1916-50, were selected to provide arithmetical averages of monthly and annual rainfall. The averages for stations in this group are given in Table I together with the percentage ratio of each monthly average to the relevant annual average.

The percentage ratios, plotted on a series of 12 maps - one for each calendar month - enabled isopercental lines to be drawn for the whole of Scotland. Small scale copies of the maps for the areas of this Memorandum are shown in Figure 1.

b. Annual averages for the period 1916-1950 were estimated for short-period stations using the methods described in Hydrological Memorandum No.5. The annual averages so found were then apportioned over the 12 calendar months using the isopercental maps referred to in a. above. Table II contains the resulting averages for those stations whose records were acceptable when subjected to the statistical tests mentioned in Hydrological Memorandum No. 5.

c. All available annual averages were plotted, and isohyets drawn on large scale maps. The isohyets, on a reduced scale, are reproduced as Figure 2.

2. Daily Rainfall, 1916-50

A number of stations with regular daily readings were chosen from Table I to provide, for each date of the year, a mean daily value based on the rainfall over the 35 years, 1916-50. The means are shown as accumulations in Table III, the entry under any particular date being the mean rainfall from January 1st to the date in question.

The mean rainfall for any particular period can be obtained by subtracting the accumulated total at the beginning of the period in question from the corresponding total at the end of the period.

3. Frequencies of Daily Rainfall, 1916-50

Stations selected from Table I were used to provide accumulated frequencies of daily rainfall amounts in intervals of mainly 0.10 inch. These are shown in Table IV. For example, the entry at 0.20 inch is the total number of days in the 35 years, 1916-50, with falls of 0.20 inch or more.

4. Extremes of Rainfall

For selected stations, maximum daily falls are set out in Table V, for periods between 1900 and 1963.

5. Further details about rainfall, for example maximum and minimum monthly and annual totals, can be obtained from the Meteorological Office, 26 Palmerston Place, Edinburgh, 12.

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Table 1. Monthly and Annual Averages of Rainfall (inches) 1916-1950
Dee and Don, North and South Esk and Tay River Purification Board Areas

Station	Ht. (ft)	N.G.R.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year	
Dee and Don																
Forehill Waterworks	132	NK(48)097463	2.86	2.09	2.03	2.13	2.36	2.06	3.16	2.96	3.32	3.48	3.61	3.16	33.22	Inch
			8.6	6.3	6.1	6.4	7.1	6.2	9.5	8.9	10.0	10.5	10.9	9.5	100.0	%
Peterhead, Mains of Buthlaw	120	NK(48)064484	2.68	1.86	1.82	1.87	2.06	1.86	2.81	2.71	3.08	3.17	3.28	2.93	30.13	Inch
			8.9	6.2	6.1	6.2	6.8	6.2	9.3	9.0	10.2	10.5	10.9	9.7	100.0	%
Fyvie Castle	200	NJ(38)764393	3.13	2.60	2.28	2.27	2.51	2.21	3.20	2.94	3.13	3.73	3.67	2.96	34.63	Inch
			9.1	7.5	6.6	6.5	7.2	6.4	9.2	8.5	9.1	10.8	10.6	8.5	100.0	%
Esslemont House	100	NJ(38)934304	3.02	2.27	1.97	2.18	2.44	1.94	3.14	2.85	3.13	3.44	3.54	3.09	33.01	Inch
			9.1	6.9	6.0	6.6	7.4	5.9	9.5	8.6	9.5	10.4	10.7	9.4	100.0	%
Craibstone	300	NJ(38)872107	3.03	2.26	2.04	2.20	2.68	2.05	3.33	2.98	3.05	3.59	3.53	3.16	33.90	Inch
			8.9	6.7	6.0	6.5	7.9	6.1	9.8	8.8	9.0	10.6	10.4	9.3	100.0	%
Derry Lodge	1400	NO(37)036932	4.92	3.29	2.68	2.94	2.98	2.49	3.60	3.64	3.82	4.92	4.35	4.26	43.89	Inch
			11.2	7.5	6.1	6.7	6.8	5.7	8.2	8.3	8.7	11.2	9.9	9.7	100.0	%
Braemar	1111	NO(37)152914	4.10	2.69	2.23	2.25	2.61	1.88	2.98	3.09	2.97	4.13	3.80	3.76	36.49	Inch
			11.2	7.4	6.1	6.2	7.2	5.1	8.2	8.5	8.1	11.3	10.4	10.3	100.0	%
Balmoral	927	NO(37)253949	3.46	2.20	2.05	2.24	2.46	1.85	3.03	2.89	2.82	3.71	3.34	3.20	33.25	Inch
			10.4	6.6	6.2	6.7	7.4	5.6	9.1	8.7	8.5	11.2	10.0	9.6	100.0	%
Gairnshiel Lodge	1100	NJ(38)295008	3.33	2.56	2.33	2.53	2.67	2.09	3.12	3.10	3.06	3.95	3.45	3.24	35.43	Inch
			9.4	7.2	6.6	7.1	7.5	5.9	8.8	8.8	8.6	11.1	9.8	9.2	100.0	%
Drum Castle	320	NJ(38)796005	2.91	2.13	1.90	2.11	2.63	2.04	3.27	2.91	2.82	3.57	3.50	3.28	33.07	Inch
			8.8	6.4	5.8	6.4	7.9	6.2	9.9	8.8	8.5	10.8	10.6	9.9	100.0	%
Aberdeen	171	NJ(38)915042	2.84	2.11	2.01	2.21	2.61	2.08	3.29	2.87	2.97	3.43	3.40	3.11	32.93	Inch
			8.7	6.4	6.1	6.7	7.9	6.3	10.0	8.7	9.0	10.4	10.3	9.5	100.0	%

Table I. Monthly and Annual Averages of Rainfall (inches) 1961-1950
Dee and Don, North and South Esk and Tay River Purification Board Areas

Station	Ht. (ft.)	N.G.R.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year	
North and South Esk																
Montrose, Wellington Park	17	NO(37)722582	2.50	1.96	1.67	1.84	2.30	1.81	2.88	2.76	2.65	3.12	2.82	2.48	28.79	Inch
			8.9	6.4	5.7	6.4	8.2	6.1	10.2	9.9	9.2	10.6	9.6	8.8	100.0	%
Den of Ogil	663	NO(37)439620	3.93	2.88	2.44	2.36	3.00	2.33	3.74	3.85	3.41	4.20	4.00	3.93	40.07	Inch
			9.8	7.2	6.1	5.9	7.5	5.8	9.3	9.6	8.5	10.5	10.0	9.8	100.0	%
Montrose	186	NO(37)707167	2.48	1.87	1.65	1.85	2.26	1.81	2.93	2.80	2.61	3.10	2.82	2.47	28.65	Inch
			8.7	6.5	5.8	6.5	7.9	6.3	10.2	9.8	9.1	10.8	9.8	8.6	100.0	%
Tay																
Crombie Res.	528	NO(37)522404	3.33	2.62	2.33	2.19	2.80	2.22	3.41	3.47	3.07	3.73	3.48	3.09	35.74	Inch
			9.3	7.4	6.5	6.1	7.8	6.2	9.5	9.7	8.6	10.5	9.7	8.7	100.0	%
Monikie Res.	494	NO(37)502383	3.17	2.41	2.19	2.09	2.73	2.17	3.40	3.42	2.88	3.54	3.18	2.78	33.96	Inch
			9.3	7.1	6.4	6.2	8.0	6.4	10.0	10.1	8.5	10.4	9.4	8.2	100.0	%
Dundee, Camperdown Works	286	NO(37)382318	2.79	2.18	1.95	1.76	2.60	2.01	3.22	3.42	2.70	3.26	2.83	2.42	31.14	Inch
			9.0	7.0	6.3	5.6	8.4	6.4	10.3	11.0	8.7	10.5	9.1	7.7	100.0	%
Kinnell	380	NN(27)577329	8.56	5.60	4.08	3.61	3.46	2.90	3.85	4.24	4.83	7.13	6.52	7.46	62.24	Inch
			13.7	9.0	6.5	5.8	5.6	6.7	6.2	6.8	7.8	11.4	10.5	12.0	100.0	%
Meggernie Castle	690	NN(27)553462	8.47	5.67	4.07	3.95	3.63	3.18	3.75	4.27	4.90	7.38	6.62	7.77	63.66	Inch
			13.3	8.9	6.4	6.2	5.7	5.0	5.9	6.7	7.7	11.6	10.4	12.2	100.0	%
Glenlyon House	425	NN(27)734472	6.07	4.05	3.05	2.83	2.95	2.57	3.63	3.73	3.92	5.38	4.70	5.57	48.45	Inch
			12.5	8.4	6.3	5.8	6.1	5.3	7.5	7.7	8.1	11.1	9.7	11.5	100.0	%
Aberfeldy	320	NN(27)852492	4.77	3.07	2.38	2.11	2.59	2.11	3.09	3.11	2.90	4.32	3.90	4.44	38.79	Inch
			12.3	7.9	6.1	5.4	6.7	5.4	8.0	8.0	7.5	11.1	10.1	11.5	100.0	%
Dall	722	NN(27)594565	6.36	4.03	2.85	2.67	2.61	2.35	3.01	3.31	3.50	5.32	4.86	5.68	46.55	Inch
			13.7	8.7	6.1	5.7	5.6	5.1	6.5	7.1	7.5	11.4	10.4	12.2	100.0	%

Table 1. Monthly and Annual Averages of Rainfall (inches) 1916-1950
Dee and Don, North and South Esk and Tay River Purification Board Areas

Station	Ht. (ft)	N.G.R.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year	
Tay (cont)																
Fincastle House	980	NN(27)868623	4.17	2.76	2.16	1.90	2.56	2.11	3.37	3.36	3.04	4.04	3.50	3.75	36.72	Inch
			11.4	7.5	5.9	5.2	7.0	5.7	9.2	9.1	8.3	11.0	9.5	10.2	100.0	%
Balnakeilly	685	NO(37)281554	3.87	2.79	2.22	2.00	2.76	2.23	3.38	3.54	3.09	3.87	3.55	3.42	36.72	Inch
			10.5	7.6	6.1	5.5	7.5	6.1	9.2	9.6	8.4	10.5	9.7	9.3	100.0	%
Lintrathen	690	NO(37)275540	3.53	2.70	2.05	1.89	2.62	2.10	3.34	3.57	3.01	3.65	3.46	3.41	35.33	Inch
			10.0	7.6	5.8	5.3	7.4	6.0	9.5	10.1	8.5	10.3	9.8	9.7	100.0	%
Glamis Castle	200	NO(37)388486	3.43	2.45	1.99	1.86	2.63	1.95	3.10	3.39	2.86	3.56	3.42	3.15	33.79	Inch
			10.2	7.2	5.9	5.5	7.8	5.8	9.2	10.0	8.5	10.5	10.1	9.3	100.0	%
Kirkmichael, Ballintuim Ho	700	NO(37)107545	4.50	3.17	2.39	2.21	2.84	2.09	3.55	3.84	3.29	4.46	4.19	4.33	40.86	Inch
			11.0	7.8	5.8	5.4	7.0	5.1	8.7	9.4	8.1	10.9	10.2	10.6	100.0	%
Perth	77	NO(37)101239	3.02	2.19	1.91	1.72	2.31	1.92	3.18	2.97	2.65	3.30	2.80	2.72	30.69	Inch
			9.8	7.1	6.2	5.6	7.5	6.3	10.4	9.7	8.6	10.8	9.1	8.9	100.0	%
Edinchip	513	NN(27)577223	8.50	5.76	4.56	4.23	4.00	3.38	4.41	5.08	5.49	8.09	7.19	8.04	68.73	Inch
			12.4	8.4	6.6	6.1	5.8	4.9	6.4	7.4	8.0	11.8	10.5	11.7	100.0	%
Strathearn Hydro	400	NN(27)867223	4.47	3.03	2.52	2.28	2.85	2.55	3.44	3.93	3.39	4.41	3.96	4.17	41.00	Inch
			10.9	7.4	6.1	5.6	6.9	6.2	8.4	9.6	8.3	10.8	9.6	10.2	100.0	%
Kippin House	450	NO(37)018130	5.18	3.42	3.01	2.71	3.14	2.63	3.88	4.03	3.69	4.68	4.37	4.76	45.50	Inch
			11.4	7.5	6.6	5.9	6.9	5.8	8.5	8.9	8.1	10.3	9.6	10.5	100.0	%
Ballendrick House	50	NO(37)119175	3.36	2.26	2.12	2.00	2.61	2.11	3.34	3.22	2.91	3.43	3.00	3.05	33.41	Inch
			10.1	6.8	6.3	6.0	7.8	6.3	10.0	9.6	8.7	10.3	9.0	9.1	100.0	%
Newport Tayfield	100	NO(37)422274	2.78	2.02	1.97	1.69	2.53	2.03	3.20	3.20	2.66	3.14	2.82	2.41	30.45	Inch
			9.1	6.6	6.5	5.6	8.3	6.7	10.5	10.5	8.7	10.3	9.3	7.9	100.0	%

Table 1. Monthly and Annual Averages of Rainfall (inches) 1916-1950
Dee and Don, North and South Esk and Tay River Purification Board Areas

Station	Ht. (ft)	N.G.R.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year	
Tay (cont)																
Tayport Lighthouse	27	NO(37)447293	2.64	1.90	1.79	1.65	2.48	1.93	3.02	3.05	2.55	3.02	2.68	2.35	29.06	Inch
			9.1	6.5	6.2	5.7	8.5	6.6	10.4	10.5	8.8	10.4	9.2	8.1	100.0	%
Leuchars	35	NO(37)468208	2.46	1.71	1.63	1.53	2.21	1.70	2.84	2.68	2.42	2.82	2.54	2.15	26.69	Inch
			9.2	6.4	6.1	5.7	8.3	6.4	10.6	10.0	9.1	10.6	9.5	8.1	100.0	%
St. Andrews	13	NO(37)502171	2.73	1.83	1.77	1.58	2.29	1.78	2.80	2.79	2.44	2.90	2.77	2.38	28.06	Inch
			9.7	6.5	6.3	5.6	8.2	6.4	10.0	9.9	8.7	10.3	9.9	8.5	100.0	%
St. Andrews W.W.	217	NO(37)506148	2.78	1.93	1.85	1.65	2.23	1.75	2.86	2.83	2.56	3.04	2.99	2.47	28.94	Inch
			9.6	6.7	6.4	5.7	7.7	6.0	9.9	9.8	8.9	10.5	10.3	8.5	100.0	%
Cameron Waterworks	478	NO(37)476115	2.98	2.21	2.07	1.89	2.61	2.09	3.17	3.27	2.81	3.38	3.22	2.70	32.40	Inch
			9.2	6.8	6.4	5.8	8.1	6.5	9.8	10.1	8.7	10.4	9.9	8.3	100.0	%

Table II. Monthly and Annual Averages of Rainfall, 1916-50, (in inches) Estimated for Short-term Stations, Dee and Don, North and South Esk and Tay River Purification Board Areas

Station	N.G.R.	Height (Feet)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year (Inches)
Dee and Don															
Rattray Head	NK(48)093582	85	2.49	1.81	1.67	1.79	1.96	1.81	2.69	2.61	2.89	2.98	3.09	2.55	28.34
Fedderate Res.	NJ(38)865526	390	3.19	2.45	2.23	2.38	2.56	2.42	3.52	3.26	3.66	3.88	3.88	3.19	36.62
New Deer School	NJ(38)886470	397	3.11	2.38	2.21	2.24	2.52	2.24	3.25	3.08	3.39	3.71	3.81	3.05	34.99
Haddo House	NJ(38)868347	186	3.04	2.33	2.07	2.17	2.40	2.03	3.17	2.87	3.17	3.58	3.50	3.04	33.37
Littlewood Park	NJ(38)516185	750	3.66	2.87	2.44	2.67	2.79	2.51	3.73	3.42	3.54	4.25	3.93	3.50	39.31
Dyce	NJ(39)883125	190	3.14	2.36	2.12	2.29	2.78	2.15	3.45	3.10	3.17	3.74	3.67	3.28	35.25
Beinn Bhreac	NO(37)058968	2700	5.36	3.59	2.92	3.21	3.30	2.78	3.97	4.07	4.16	5.36	4.69	4.45	47.86
Corndavon Lodge	NJ(38)228021	1500	3.89	2.60	2.23	2.56	2.64	2.13	3.33	3.11	3.19	4.11	3.55	3.30	36.64
Alltnaguibhsaich	NO(37)300858	1370	4.80	3.26	2.89	3.03	3.40	2.33	4.19	4.19	3.91	5.17	4.70	4.70	46.57
Inchnabobart	NO(37)310876	1270	4.47	3.06	2.75	2.92	3.19	2.30	3.99	3.99	3.76	4.91	4.47	4.47	44.28
Birkhall Sawmill	NO(37)349936	650	3.46	2.36	2.14	2.32	2.53	1.90	3.19	3.12	2.94	3.85	3.50	3.33	34.64
Ballater Irrigation Farm	NO(37)381966	633	3.40	2.34	2.13	2.30	2.51	1.92	3.19	3.09	2.92	3.82	3.47	3.26	34.35
Logie Coldstone	NJ(38)434044	608	2.98	2.18	1.87	2.09	2.24	1.78	2.88	2.73	2.70	3.37	3.07	2.79	30.68
Glen Tanar House	NO(37)474958	553	3.55	2.50	2.28	2.47	2.73	2.16	3.51	3.44	3.25	4.07	3.81	3.59	37.36
Aboyne	NO(37)542982	380	2.71	2.05	1.83	1.99	2.29	1.75	2.89	2.77	2.62	3.24	3.06	2.89	30.09
Lumphanan	NJ(38)575036	476	2.83	2.16	1.97	2.13	2.41	1.94	3.02	2.89	2.80	3.43	3.24	2.96	31.78
Invercannie Waterworks	NO(37)665966	211	2.87	2.21	2.01	2.15	2.51	2.01	3.24	3.01	2.87	3.58	3.44	3.14	33.04
Bridge of Dye	NO(37)650857	553	3.95	2.92	2.70	2.88	3.46	2.70	4.40	4.22	3.95	4.82	4.67	4.27	44.94
Invery House	NO(37)698940	225	3.22	2.45	2.16	2.37	2.85	2.26	3.58	3.32	3.21	3.91	3.80	3.40	36.53
Craigiebuckler	NJ(38)903045	220	3.08	2.31	2.10	2.31	2.77	2.17	3.50	3.08	3.12	3.72	3.62	3.26	35.04
North and South Esk															
Muchalls	NO(37)898919	210	2.56	1.87	1.73	1.93	2.35	1.87	3.06	2.65	2.71	3.19	3.06	2.77	29.75
Stonehaven	NO(37)873864	125	2.60	1.91	1.75	1.97	2.39	1.90	3.08	2.75	2.78	3.24	3.11	2.75	30.23

Table II. Monthly and Annual Averages of Rainfall, 1916-50, (in inches) Estimated for Short-term Stations, Dee and Don, North and South Esk and Tay River Purification Board Areas.

Station	N.G.R.	Height (Feet)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year (inches)
North and South Esk (cont)															
Glen Lee	NO(37)374815	1545	4.90	3.25	3.15	3.20	3.65	2.85	4.55	4.60	4.20	5.40	5.25	5.00	50.00
Inchgrundle	NO(37)410794	885	4.85	3.46	3.07	3.11	3.66	2.52	4.60	4.60	4.20	5.35	5.04	4.99	49.45
Invermark Lodge	NO(37)431803	895	4.48	3.19	2.86	2.91	3.41	2.40	4.29	4.25	3.97	4.99	4.75	4.66	46.16
Stracathro Hospital	NO(37)626655	120	2.87	2.25	1.89	2.12	2.55	1.99	3.20	3.13	2.90	3.50	3.29	2.94	32.63
Fettercairn	NO(37)669782	560	3.43	2.61	2.34	2.53	3.04	2.34	3.82	3.63	3.47	4.17	4.02	3.59	38.99
Fasque	NO(37)649757	320	3.27	2.53	2.23	2.42	2.90	2.23	3.64	3.46	3.27	3.98	3.83	3.42	37.18
Kinnaber Waterworks	NO(37)713622	30	2.46	1.93	1.64	1.84	2.24	1.78	2.78	2.72	2.61	3.06	2.83	2.43	28.32
Cormuir	NO(37)306667	870	4.80	3.40	2.89	2.70	3.40	2.42	4.24	4.33	3.91	5.04	4.75	4.70	46.58
Glenogil Waterworks	NO(37)445625	690	3.96	2.94	2.45	2.41	3.10	2.32	3.83	3.96	3.51	4.28	4.16	3.88	40.80
Abroath	NO(37)649411	95	2.28	1.86	1.60	1.55	2.13	1.65	2.63	2.44	2.49	2.89	2.52	2.21	26.25
Tay															
Fallows	NO(37)503405	580	3.26	2.53	2.18	2.14	2.81	2.14	3.41	3.55	3.02	3.71	3.41	2.95	35.11
Carnoustie	NO(37)569344	29	2.62	1.92	1.81	1.78	2.39	1.90	2.97	3.00	2.62	3.03	2.74	2.36	29.14
Buddonness	NO(37)539309	15	2.53	1.86	1.74	1.71	2.30	1.83	2.87	2.89	2.53	2.92	2.64	2.28	28.10
Clatto Res.	NO(37)368344	500	3.08	2.30	2.01	1.88	2.66	2.01	3.18	3.47	2.76	3.34	3.15	2.59	32.43
Dundee	NO(37)435310	147	2.83	2.17	1.96	1.74	2.61	1.99	3.20	3.32	2.70	3.26	2.86	2.42	31.06
Stobsmuir Res.	NO(37)414321	285	2.81	2.14	1.87	1.78	2.45	1.87	3.02	3.23	2.63	3.08	2.90	2.41	30.19
Mylnefield	NO(37)341299	100	2.67	1.97	1.74	1.63	2.28	1.77	2.84	3.07	2.39	2.89	2.70	2.16	28.11
Fingask	NO(37)223294	545	2.99	2.19	1.91	1.73	2.44	1.97	3.12	3.09	2.59	3.19	2.96	2.69	30.87
Tyndrum	NN(27)328307	790	12.32	8.50	6.25	6.06	5.47	5.18	6.16	6.94	8.11	11.34	9.97	11.43	97.73
Auchlyne West	NN(27)485306	1400	12.31	8.70	6.15	5.86	5.39	4.63	5.86	6.43	7.66	10.78	9.65	11.17	94.59
Glenoglehead	NN(27)558281	942	9.52	6.44	4.83	4.54	4.32	3.59	4.61	5.13	5.71	8.35	7.47	8.71	73.22

Table II. Monthly and Annual Averages of Rainfall, 1916-50, (in inches) Estimated for Short-term Stations, Dee and Don, North and South Esk and Tay River Purification Board Areas.

Station	N.G.R.	Height (Feet)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year (inches)
Tay (cont)															
Ben Challum	NN(27)396334	1500	14.94	10.50	7.58	7.23	6.53	5.95	7.23	8.17	9.45	13.31	11.90	13.88	116.67
Badvaim	NN(27)412338	900	14.08	9.82	7.09	6.76	6.22	5.56	6.65	7.42	8.84	12.55	11.13	12.99	109.11
Lairig nan Lunn	NN(27)447390	1720	12.14	8.68	6.06	5.88	5.22	4.57	5.50	6.34	7.65	10.64	9.42	11.20	93.30
Murlaganmore	NN(27)538342	750	9.51	6.26	4.64	4.57	4.27	3.61	4.71	5.45	6.04	8.32	7.51	8.76	73.65
Finlarig Power Sta. North	NN(27)580348	600	8.12	5.45	3.93	3.57	3.51	2.97	3.81	4.12	4.60	6.90	6.17	7.39	60.54
Lawers Dam	NN(27)597391	1690	10.17	6.70	4.82	4.44	4.37	3.69	4.74	5.12	5.80	8.59	7.68	9.19	75.31
Kenmore	NN(27)763454	390	5.36	3.51	2.65	2.48	2.65	2.27	3.21	3.30	3.47	4.75	4.20	4.98	42.83
Stronuich Dam	NN(27)508422	941	9.34	6.22	4.42	4.29	3.87	3.32	4.01	4.63	5.53	7.95	7.12	8.43	69.13
Giorra Dam	NN(27)510465	1375	9.56	6.35	4.57	4.42	4.07	3.35	4.21	4.78	5.71	8.20	7.35	8.77	71.34
Derculich	NN(27)891526	350	4.25	2.87	2.22	1.95	2.47	2.07	3.05	2.98	2.87	4.00	3.60	4.00	36.33
Gaur Power Sta.	NN(27)464572	794	7.16	4.70	3.50	3.39	3.06	2.68	3.22	3.83	4.43	6.34	5.68	6.67	54.66
Ericht Dam	NN(27)511629	1196	7.47	4.93	3.61	3.50	3.27	2.75	3.61	4.30	4.59	6.54	5.91	6.90	57.38
Loch Rannoch Power House	NN(27)531582	675	5.93	3.93	2.85	2.76	2.58	2.21	2.80	3.21	3.62	5.20	4.66	5.47	45.22
Over Bohespic	NN(27)743607	895	5.27	3.49	2.60	2.47	2.60	2.17	3.19	3.28	3.41	4.77	4.30	5.02	42.57
Domnaheich	NN(27)792579	640	4.94	3.35	2.53	2.40	2.61	2.19	3.31	3.23	3.35	4.61	4.14	4.77	41.43
Bonskeid House	NN(27)894611	540	4.30	2.89	2.15	2.15	2.48	2.07	3.07	3.04	3.00	4.07	3.70	4.11	37.03
Luidhearnaidh	NN(27)624730	1700	9.46	6.27	4.72	4.50	4.35	3.84	5.17	5.54	6.05	8.19	7.38	8.35	73.82
Edendon Bridge	NN(27)715706	1040	5.98	3.98	3.06	2.91	2.96	2.57	3.59	3.74	3.93	5.39	4.95	5.49	48.55
Sronphadruig Lodge	NN(27)714791	1630	7.88	5.35	4.12	3.98	4.04	3.59	4.96	5.02	5.35	7.24	6.52	7.17	65.22
Blair Castle	NN(27)864658	450	4.16	2.83	2.19	2.04	2.33	1.82	2.87	2.90	2.94	4.01	3.69	4.05	35.83
Faskally	NN(27)918599	310	4.06	2.73	2.09	2.06	2.45	2.02	2.94	2.91	2.84	3.90	3.55	3.90	35.45

Table II. Monthly and Annual Averages of Rainfall, 1916-50, (in inches) Estimated for Short-term Stations, Dee and Don, North and South Esk and Tay River Purification Board Areas.

Station	N.G.R.	Height (Feet)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year (inches)
Tay (cont)															
Dalvanie	NO(37)186657	1020	4.85	3.43	2.83	2.65	3.29	2.65	4.02	4.20	3.75	4.85	4.57	4.61	45.70
Lochcraigs	NO(37)275538	680	3.77	2.74	2.16	2.01	2.71	2.23	3.37	3.51	3.07	3.88	3.62	3.51	36.58
Barney	NO(37)251634	1120	4.64	3.33	2.79	2.61	3.29	2.61	4.01	4.19	3.78	4.77	4.51	4.51	45.04
Glenhead	NO(37)273648	1200	4.83	3.47	2.86	2.72	3.42	2.72	4.22	4.36	3.94	4.98	4.69	4.69	46.90
Backwater	NO(37)255589	850	4.33	3.11	2.57	2.40	3.11	2.48	3.83	3.99	3.49	4.47	4.16	4.12	42.06
Dykends	NO(37)253569	750	3.97	2.89	2.39	2.16	2.85	2.35	3.51	3.66	3.20	4.04	3.78	3.74	38.54
Glendye	NO(37)296621	1050	4.90	3.51	2.94	2.75	3.51	2.75	4.32	4.46	3.94	5.00	4.75	4.65	47.48
Longdrum	NO(37)278619	1045	4.59	3.30	2.76	2.58	3.30	2.58	4.01	4.23	3.70	4.73	4.41	4.37	44.56
Westerton	NO(37)282598	900	4.38	3.19	2.59	2.42	3.15	2.55	3.83	4.04	3.49	4.48	4.25	4.17	42.54
Newton	NO(37)285573	735	4.06	2.99	2.39	2.23	2.99	2.43	3.66	3.78	3.31	4.19	3.94	3.86	39.83
Glenshee Lodge	NO(37)133684	1100	4.95	3.45	2.77	2.63	3.18	2.27	3.90	4.13	3.77	4.90	4.67	4.76	45.38
Blairgowrie, Burnhead	NO(37)174458	440	3.27	2.33	1.84	1.69	2.33	1.93	2.89	2.98	2.58	3.27	2.99	3.02	31.12
Cardney House	NO(37)051452	350	4.04	3.01	2.24	2.12	2.78	2.27	3.55	3.63	3.05	4.16	3.86	3.86	38.57
Methven Waterworks	NN(27)988267	450	3.93	2.77	2.29	2.11	2.55	2.29	3.33	3.44	3.03	3.97	3.59	3.70	37.00
Montague Res.	NO(37)191281	530	3.18	2.30	2.01	1.85	2.50	2.04	3.27	3.24	2.69	3.38	3.11	2.85	32.42
Perth, Craigie Haugh	NO(37)113224	14	2.91	2.06	1.80	1.69	2.12	1.86	2.94	2.82	2.41	3.09	2.79	2.59	29.08
Locheardhead	NN(27)592239	370	8.06	5.54	4.09	3.84	3.65	3.02	4.09	4.72	4.91	7.17	6.42	7.43	62.94
Dunira	NN(27)731238	270	6.76	4.55	3.49	3.21	2.44	2.88	4.10	4.60	4.55	6.21	5.49	6.15	55.43
Invergeldie Lodge	NN(27)742278	795	6.96	4.65	3.56	3.33	3.56	3.05	4.25	4.65	4.65	6.33	6.16	6.33	57.48
Ben Chonzie	NN(27)769304	2800	9.31	6.23	4.84	4.38	4.77	4.15	6.07	6.30	6.30	8.45	7.53	8.53	76.86
Lochan Uaine	NN(27)786307	1550	8.33	5.62	4.37	3.95	4.30	3.81	5.47	5.75	5.68	7.62	6.79	7.62	69.31

Table II. Monthly and Annual Averages of Rainfall, 1916-50 (in inches) Estimated for Short-term Stations, Dee and Don, North and South Esk and Tay River Purification Board Areas.

Station	N.G.R.	Height (Feet)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year (inches)
Tay (cont)															
Upper Glenturret	NN(27)795299	1400	7.87	5.28	4.09	3.76	4.16	3.70	5.28	5.68	5.41	7.20	6.40	7.20	66.03
Glenturret Lodge	NN(27)802293	1250	7.66	5.20	4.03	3.70	4.09	3.77	5.20	5.59	5.33	7.08	6.30	7.02	64.97
Lower Glenturret	NN(27)821266	1100	6.28	4.28	3.36	3.03	3.41	3.19	4.39	4.87	4.44	5.85	5.25	5.79	54.14
Ramsheugh	NO(37)131141	310	4.02	2.54	2.39	2.17	2.65	2.28	3.53	3.42	3.16	3.79	3.46	3.38	36.79
Balmerino Manse	NO(37)367245	200	2.70	1.93	1.79	1.62	2.33	1.88	2.96	2.90	2.47	2.93	2.67	2.25	28.43
Pitlair	NO(37)317122	116	3.07	2.07	1.95	1.79	2.37	2.04	2.98	2.95	2.68	3.11	2.83	2.59	30.43
Cupar	NO(37)388152	82	2.91	1.94	1.85	1.62	2.29	1.94	2.93	2.84	2.55	2.95	2.69	2.46	28.97
Clatto Res.	NO(37)366078	505	3.35	2.33	2.16	2.02	2.70	2.36	3.35	3.35	3.05	3.51	3.18	2.88	34.24

Table III. Accumulated Mean Daily Rainfall, in inches, 1916-50

BALMORAL

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	.17	3.59	5.72	7.83	9.98	12.52	14.32	17.39	20.28	23.12	26.81	30.12
2	.30	3.68	5.77	7.91	10.02	12.59	14.38	17.50	20.38	23.23	26.95	30.24
3	.38	3.78	5.82	7.97	10.08	12.64	14.50	17.53	20.50	23.38	27.10	30.37
4	.49	3.83	5.87	8.04	10.17	12.70	14.62	17.58	20.66	23.47	27.24	30.46
5	.57	3.91	5.96	8.11	10.30	12.77	14.77	17.68	20.74	23.61	27.37	30.57
6	.66	3.98	6.01	8.17	10.43	12.88	14.85	17.75	20.83	23.70	27.45	30.68
7	.77	4.07	6.06	8.24	10.52	12.95	15.00	17.83	20.92	23.83	27.56	30.77
8	.86	4.14	6.10	8.30	10.66	13.03	15.07	17.91	21.02	23.92	27.63	30.86
9	1.01	4.21	6.13	8.38	10.71	13.11	15.14	17.99	21.09	24.11	27.73	30.99
10	1.11	4.28	6.21	8.45	10.75	13.17	15.24	18.08	21.19	24.23	27.87	31.10
11	1.22	4.34	6.28	8.50	10.80	13.21	15.34	18.19	21.23	24.32	27.96	31.26
12	1.36	4.37	6.38	8.56	10.85	13.26	15.43	18.28	21.28	24.42	28.07	31.34
13	1.48	4.40	6.41	8.61	10.95	13.30	15.55	18.34	21.43	24.49	28.18	31.45
14	1.59	4.44	6.45	8.70	11.01	13.37	15.62	18.44	21.52	24.59	28.27	31.55
15	1.66	4.52	6.50	8.78	11.16	13.43	15.71	18.57	21.61	24.67	28.40	31.68
16	1.74	4.61	6.60	8.87	11.21	13.49	15.81	18.66	21.75	24.76	28.49	31.83
17	1.83	4.68	6.65	8.98	11.30	13.52	15.97	18.81	21.86	24.91	28.66	31.93
18	1.95	4.75	6.70	9.03	11.36	13.57	16.16	18.87	21.96	25.03	28.89	32.03
19	2.08	4.79	6.79	9.10	11.41	13.60	16.22	18.94	22.10	25.17	29.01	32.10
20	2.23	4.83	6.88	9.17	11.46	13.67	16.31	19.08	22.26	25.25	29.13	32.16
21	2.37	4.92	6.94	9.24	11.53	13.73	16.44	19.18	22.32	25.35	29.21	32.23
22	2.46	4.97	7.00	9.31	11.59	13.78	16.50	19.27	22.42	25.48	29.33	32.39
23	2.55	5.03	7.05	9.39	11.66	13.84	16.58	19.36	22.51	25.59	29.46	32.48
24	2.72	5.08	7.14	9.48	11.72	13.89	16.62	19.41	22.58	25.71	29.55	32.60
25	2.90	5.15	7.21	9.60	11.80	13.93	16.73	19.52	22.67	25.88	29.65	32.75
26	2.98	5.29	7.28	9.67	11.95	14.02	16.82	19.63	22.76	26.07	29.75	32.86
27	3.06	5.45	7.37	9.78	12.06	14.10	16.89	19.73	22.81	26.24	29.83	32.93
28	3.18	5.56	7.41	9.84	12.16	14.15	17.00	19.90	22.89	26.39	29.92	33.03
29	3.28	5.66	7.51	9.91	12.21	14.20	17.11	20.00	22.94	26.50	29.98	33.12
30	3.33		7.61	9.95	12.31	14.26	17.18	20.08	23.00	26.62	30.05	33.20
31	3.46		7.71		12.41		17.29	20.18		26.71		33.25

Table III. Accumulated Mean Daily Rainfall, in inches, 1916-50

ABERDEEN

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.13	2.93	5.07	7.07	9.20	11.87	13.94	17.28	20.12	23.10	26.57	29.92
2	0.24	3.01	5.11	7.17	9.26	11.96	14.02	17.37	20.20	23.19	26.71	30.02
3	0.34	3.11	5.23	7.26	9.34	12.02	14.13	17.40	20.31	23.32	26.83	30.12
4	0.45	3.19	5.28	7.35	9.45	12.10	14.24	17.47	20.42	23.44	26.96	30.21
5	0.54	3.28	5.34	7.41	9.57	12.21	14.35	17.53	20.46	23.58	27.10	30.28
6	0.61	3.39	5.39	7.45	9.73	12.31	14.45	17.61	20.61	23.66	27.21	30.36
7	0.69	3.47	5.43	7.54	9.82	12.36	14.64	17.70	20.72	23.81	27.37	30.48
8	0.77	3.55	5.48	7.62	9.94	12.46	14.72	17.83	20.84	23.92	27.44	30.59
9	0.85	3.61	5.53	7.66	10.01	12.51	14.80	17.87	20.93	24.04	27.55	30.72
10	0.94	3.69	5.58	7.73	10.05	12.62	14.93	17.95	21.04	24.19	27.67	30.84
11	1.04	3.75	5.65	7.79	10.12	12.65	15.05	18.02	21.08	24.27	27.78	31.00
12	1.15	3.81	5.70	7.91	10.19	12.73	15.15	18.17	21.15	24.37	27.86	31.10
13	1.23	3.86	5.73	7.95	10.28	12.79	15.30	18.27	21.31	24.45	27.95	31.21
14	1.33	3.95	5.77	8.05	10.33	12.88	15.39	18.36	21.38	24.51	28.03	31.33
15	1.41	4.01	5.84	8.11	10.48	12.93	15.47	18.49	21.44	24.58	28.14	31.44
16	1.49	4.07	5.92	8.18	10.58	12.97	15.55	18.59	21.60	24.65	28.26	31.57
17	1.57	4.14	5.96	8.28	10.69	13.03	15.67	18.68	21.69	24.78	28.42	31.66
18	1.69	4.21	6.03	8.34	10.76	13.08	15.80	18.77	21.79	24.86	28.61	31.73
19	1.75	4.26	6.11	8.40	10.80	13.12	15.94	18.82	21.98	24.94	28.71	31.81
20	1.85	4.32	6.16	8.46	10.88	13.19	16.09	18.93	22.13	25.03	28.86	31.94
21	1.94	4.39	6.22	8.51	10.98	13.26	16.24	19.06	22.19	25.12	28.95	32.01
22	2.05	4.44	6.29	8.57	11.04	13.30	16.31	19.13	22.35	25.26	29.05	32.12
23	2.15	4.52	6.36	8.65	11.11	13.35	16.38	19.20	22.48	25.40	29.24	32.19
24	2.27	4.56	6.41	8.73	11.20	13.42	16.45	19.25	22.56	25.50	29.30	32.27
25	2.36	4.61	6.47	8.82	11.29	13.47	16.58	19.41	22.65	25.66	29.40	32.38
26	2.41	4.70	6.54	8.87	11.37	13.56	16.65	19.49	22.74	25.81	29.49	32.54
27	2.45	4.79	6.63	8.97	11.46	13.64	16.75	19.56	22.82	25.92	29.60	32.59
28	2.51	4.88	6.69	9.07	11.54	13.71	16.85	19.70	22.88	26.08	29.69	32.66
29	2.63	4.95	6.80	9.13	11.57	13.77	16.94	19.83	22.91	26.20	29.76	32.77
30	2.71		6.89	9.17	11.67	13.86	17.03	19.92	22.99	26.33	29.82	32.86
31	2.84		6.96		11.78		17.15	20.02		25.42		32.93

Table III. Accumulated Mean Daily Rainfall, in inches, 1916-50

MONTROSE

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.10	2.54	4.45	6.04	7.88	10.19	11.99	14.97	17.75	20.38	23.48	26.27
2	0.19	2.63	4.48	6.14	7.94	10.25	12.04	15.07	17.84	20.47	23.60	26.34
3	0.24	2.71	4.57	6.22	8.03	10.30	12.18	15.08	17.93	20.62	23.69	26.39
4	0.31	2.76	4.61	6.28	8.14	10.38	12.28	15.14	18.05	20.71	23.79	26.46
5	0.38	2.85	4.67	6.33	8.28	10.47	12.40	15.22	18.08	20.88	23.89	26.51
6	0.46	2.94	4.70	6.39	8.40	10.57	12.48	15.32	18.19	20.95	23.96	26.59
7	0.52	3.00	4.74	6.45	8.48	10.63	12.65	15.40	18.28	21.08	24.03	26.68
8	0.57	3.07	4.77	6.50	8.59	10.73	12.74	15.49	18.39	21.20	24.10	26.76
9	0.66	3.14	4.81	6.54	8.66	10.81	12.83	15.53	18.46	21.34	24.18	26.86
10	0.74	3.20	4.87	6.60	8.70	10.88	12.90	15.59	18.53	21.44	24.28	26.95
11	0.79	3.23	4.92	6.65	8.78	10.91	12.96	15.68	18.57	21.49	24.36	27.09
12	0.88	3.29	4.97	6.75	8.85	10.98	13.02	15.84	18.65	21.58	24.41	27.16
13	0.96	3.33	5.02	6.79	8.96	11.02	13.13	15.94	18.79	21.66	24.49	27.25
14	1.04	3.42	5.08	6.91	9.01	11.12	13.18	16.02	18.86	21.68	24.58	27.35
15	1.09	3.49	5.13	6.95	9.12	11.16	13.26	16.13	18.92	21.73	24.66	27.47
16	1.16	3.55	5.19	7.02	9.17	11.20	13.34	16.25	19.07	21.79	24.76	27.56
17	1.23	3.60	5.24	7.11	9.26	11.23	13.49	16.41	19.17	21.90	24.92	27.62
18	1.35	3.65	5.30	7.15	9.31	11.26	13.58	16.47	19.24	21.97	25.12	27.68
19	1.43	3.72	5.35	7.21	9.34	11.30	13.68	16.55	19.38	22.02	25.23	27.71
20	1.50	3.78	5.40	7.25	9.42	11.35	13.83	16.69	19.53	22.09	25.37	27.78
21	1.59	3.86	5.45	7.30	9.46	11.43	13.97	16.78	19.62	22.22	25.47	27.85
22	1.67	3.92	5.50	7.35	9.53	11.51	14.03	16.81	19.73	22.37	25.54	27.94
23	1.79	3.98	5.54	7.41	9.59	11.56	14.11	16.90	19.83	22.51	25.71	28.00
24	1.90	4.01	5.58	7.48	9.65	11.59	14.20	16.94	19.89	22.60	25.76	28.06
25	2.00	4.08	5.62	7.55	9.71	11.62	14.29	17.11	19.95	22.75	25.82	28.17
26	2.05	4.18	5.67	7.58	9.77	11.69	14.38	17.20	20.03	22.86	25.92	28.29
27	2.10	4.25	5.73	7.68	9.83	11.77	14.46	17.28	20.08	22.94	25.99	28.34
28	2.18	4.30	5.76	7.74	9.89	11.83	14.58	17.41	20.14	23.10	26.06	28.42
29	2.29	4.35	5.84	7.79	9.92	11.87	14.66	17.50	20.18	23.20	26.12	28.51
30	2.35		5.92	7.85	9.99	11.92	14.75	17.57	20.26	23.29	26.18	28.59
31	2.48		6.00		10.11		14.85	17.65		23.36		28.65

Table III. Accumulated Mean Daily Rainfall, in inches, 1916-50

ABERFELDY

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	.17	4.97	7.89	10.32	12.38	15.02	17.08	20.23	23.34	26.28	30.60	34.49
2	.34	5.11	7.95	10.37	12.44	15.11	17.16	20.34	23.49	26.43	30.77	34.63
3	.48	5.26	8.02	10.46	12.49	15.15	17.25	20.37	23.59	26.62	30.95	34.78
4	.61	5.36	8.11	10.54	12.64	15.22	17.39	20.41	23.73	26.74	31.10	34.89
5	.73	5.48	8.27	10.63	12.77	15.30	17.53	20.49	23.81	26.91	31.25	35.02
6	.87	5.61	8.32	10.70	12.90	15.42	17.65	20.54	23.91	27.03	31.34	35.19
7	1 02	5.74	8.38	10.77	12.94	15.51	17.78	20.65	23.98	27.21	31.44	35.23
8	1.16	5.93	8.43	10.83	12.98	15.58	17.88	20.74	24.04	27.33	31.57	35.42
9	1.44	6.07	8.47	10.92	13.02	15.65	17.97	20.82	24.12	27.63	31.66	35.56
10	1.61	6.18	8.54	10.97	13.08	15.71	18.09	20.94	24.20	27.79	31.81	35.68
11	1.79	6.27	8.57	11.02	13.15	15.78	18.15	21.02	24.25	27.90	31.91	35.85
12	2.01	6.34	8.65	11.09	13.21	15.84	18.22	21.12	24.37	28.03	32.01	35.98
13	2.15	6.40	8.68	11.19	13.30	15.87	18.33	21.24	24.48	28.11	32.13	36.12
14	2.36	6.47	8.72	11.30	13.38	15.97	18.41	21.31	24.58	28.20	32.25	36.27
15	2.45	6.60	8.79	11.37	13.47	16.00	18.56	21.43	24.65	28.27	32.36	36.47
16	2.56	6.66	8.91	11.43	13.51	16.07	18.67	21.55	24.83	28.41	32.48	36.61
17	2.69	6.73	8.98	11.51	13.62	16.10	18.77	21.70	24.99	28.62	32.61	36.76
18	2.82	6.82	9.05	11.54	13.70	16.15	18.95	21.77	25.05	28.73	32.82	36.95
19	2.93	6.88	9.19	11.60	13.76	16.18	19.04	21.94	25.20	28.89	33.04	37.08
20	3.09	6.96	9.32	11.65	13.83	16.26	19.13	22.12	25.33	29.00	33.19	37.17
21	3.23	7.07	9.42	11.74	13.94	16.34	19.28	22.21	25.44	29.14	33.50	37.27
22	3.35	7.14	9.48	11.82	14.00	16.44	19.36	22.27	25.55	29.28	33.45	37.44
23	3.50	7.17	9.54	11.91	14.08	16.61	19.45	22.41	25.63	29.40	33.60	37.52
24	3.69	7.26	9.59	12.05	14.12	16.66	19.53	22.47	25.68	29.57	33.74	37.66
25	3.88	7.39	9.67	12.13	14.21	16.72	19.60	22.59	25.74	29.71	33.86	37.92
26	4.02	7.55	9.74	12.19	14.33	16.81	19.68	22.71	25.81	29.92	33.95	38.13
27	4.18	7.68	9.81	12.25	14.42	16.87	19.76	22.82	25.90	30.04	34.04	38.26
28	4.33	7.73	9.85	12.27	14.52	16.94	19.87	22.93	25.99	30.12	34.12	38.43
29	4.48	7.84	10.00	12.30	14.66	16.97	19.94	23.05	26.04	30.23	24.23	38.51
30	4.57		10.10	12.33	14.76	17.03	20.02	23.14	26.13	30.37	34.35	38.68
31	4.77		10.22		14.92		20.12	23.23		30.45		38.79

Table III. Accumulated Mean Daily Rainfall, in inches, 1916-50

PERTH

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	0.12	3.16	5.26	7.18	8.89	11.24	13.13	16.36	19.37	22.01	25.30	28.04
2	0.23	3.27	5.29	7.25	8.94	11.31	13.19	16.45	19.46	22.14	25.40	28.14
3	0.29	3.37	5.34	7.31	8.98	11.37	13.31	16.48	19.57	22.27	25.47	28.21
4	0.36	3.44	5.41	7.38	9.10	11.44	13.49	16.53	19.71	22.36	25.59	28.28
5	0.41	3.54	5.53	7.44	9.22	11.50	13.62	16.59	19.76	22.51	25.71	28.35
6	0.50	3.64	5.57	7.48	9.31	11.60	13.71	16.69	19.84	22.62	25.78	28.43
7	0.61	3.74	5.60	7.55	9.39	11.69	13.90	16.81	19.94	22.73	25.85	28.50
8	0.69	3.84	5.64	7.61	9.46	11.75	14.02	16.92	20.00	22.85	25.91	28.56
9	0.83	3.95	5.69	7.67	9.50	11.85	14.10	16.97	20.09	23.08	25.99	28.68
10	0.92	4.00	5.76	7.73	9.54	11.93	14.21	17.07	20.16	23.18	26.07	28.78
11	0.99	4.06	5.86	7.79	9.59	11.99	14.29	17.17	20.23	23.24	26.16	28.87
12	1.12	4.11	5.92	7.86	9.66	12.05	14.35	17.29	20.29	23.35	26.23	28.95
13	1.22	4.18	5.96	7.91	9.74	12.09	14.48	17.36	20.43	23.42	26.33	29.01
14	1.32	4.26	6.01	8.00	9.83	12.17	14.56	17.48	20.51	23.46	26.44	29.10
15	1.40	4.35	6.18	8.08	9.92	12.22	14.66	17.57	20.57	23.51	26.53	29.19
16	1.49	4.38	6.20	8.15	9.95	12.27	14.75	17.71	20.73	23.60	26.61	29.30
17	1.56	4.43	6.26	8.23	10.07	12.31	14.91	17.84	20.88	23.75	26.72	29.40
18	1.68	4.50	6.33	8.25	10.14	12.36	15.03	17.92	20.94	23.82	26.92	29.51
19	1.79	4.56	6.41	8.29	10.18	12.40	15.11	18.02	21.09	23.90	27.07	29.62
20	1.90	4.62	6.48	8.35	10.25	12.46	15.20	18.20	21.21	23.98	27.18	29.69
21	2.00	4.69	6.55	8.40	10.35	12.55	15.30	18.28	21.29	24.12	27.26	29.76
22	2.11	4.75	6.59	8.46	10.41	12.65	15.37	18.34	21.40	24.25	27.35	29.83
23	2.22	4.81	6.62	8,52	10.49	12.69	15.46	18.40	21.45	24.40	27.50	29.87
24	2.34	4.88	6.67	8.62	10.57	12.74	15.52	18.46	21.52	24.52	27.56	29.95
25	2.50	4.95	6.73	8.68	10.66	12.79	15.60	18.63	21.57	24.64	27.64	30.09
26	2.55	5.05	6.79	8.71	10.75	12.84	15.68	18.77	21.64	24.75	27.71	30.23
27	2.63	5.12	6.83	8.75	10.82	12.92	15.75	18.86	21.69	24.83	27.77	30.31
28	2.72	5.14	6.86	8.79	10.91	12.97	15.89	18.99	21.77	24.91	27.83	30.43
29	2.82	5.21	6.97	8.82	10.96	13.02	16.00	19.09	21.79	25.01	27.90	30.53
30	2.87		7.06	8.84	11.04	13.07	16.11	19.16	21.87	25.09	27.97	30.62
31	3.02		7.12		11.15		16.25	19.22		25.17		30.69

Table IV. Accumulated Frequencies of Daily Rainfall Amounts (in inches) 1916-50

BALMORAL

Daily Totals	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	All Months
2.60	1												1
2.50	1												1
2.40	1												1
2.30	1												1
2.20	1												1
2.10	1												1
2.00	1												1
1.90	1												1
1.80	1												1
1.70	1					1		1					3
1.60	1				1	1	2	1		1	1		8
1.50	1				1	1	2	3	1	1	1		11
1.40	2				1	1	3	5	1	1	1		15
1.30	4			1	2	1	6	7	1	1	3	3	29
1.20	5	2	1	1	2	1	7	8	2	6	4	4	43
1.10	6	2	1	1	4	1	8	10	6	11	4	5	59
1.00	7	4	4	1	5	2	9	15	10	13	7	8	85
0.90	10	6	7	1	7	3	14	21	12	19	12	12	124
0.80	20	12	8	3	9	5	21	22	18	31	18	16	183
0.70	25	15	11	8	17	6	26	32	26	45	27	27	265
0.60	37	20	14	16	25	10	36	39	36	62	36	37	368
0.50	54	28	18	23	32	18	53	51	54	76	55	48	510
0.40	82	43	27	42	44	32	75	69	69	101	84	76	744
0.30	125	68	53	71	76	60	104	101	98	141	137	111	1145
0.20	196	114	108	126	143	103	175	146	150	203	192	190	1846
0.10	342	234	234	256	255	201	273	262	264	322	314	310	3267
0.005	738	125	642	667	622	548	648	606	640	723	714	727	7900
* ≡ 0.004	347	364	443	383	463	502	437	479	410	362	336	358	4884
Total No. of Days	1085	989	1085	1050	1085	1050	1085	1085	1050	1085	1050	1085	12784

* Including rainless days.

Table IV. Accumulated Frequencies of Daily Rainfall Amounts (in inches) 1916-50

ABERDEEN

Daily Totals	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	All Months
3.00										1			1
2.70									1	1			2
2.60									1	1			2
2.50							1		1	1			3
2.40							1		1	1			3
2.30							1	1	1	2		1	6
2.20							1	1	1	2		1	6
2.10				1		1	1	1	1	2		1	8
2.00				1		1	1	1	2	2		1	9
1.90				1		1	2	1	2	2		1	10
1.80				1		2	2	1	2	2	1	1	12
1.70				1	1	2	2	2	2	3	1	1	15
1.60				1	1	2	2	3	2	3	1	1	16
1.50			1	1	1	2	2	3	2	3	1	1	17
1.40			1	1	3	2	2	3	5	4	2	2	25
1.30			1	1	3	2	4	4	6	4	3	3	31
1.20	1		1	1	3	3	5	6	8	5	3	3	39
1.10	2	1	2	1	5	4	10	11	10	5	6	4	61
1.00	2	1	2	1	12	5	12	13	15	9	10	6	88
0.90	7	6	2	2	14	6	17	13	17	17	11	11	123
0.80	8	6	3	6	17	8	21	19	22	26	17	19	172
0.70	15	8	9	12	23	9	28	23	30	32	25	26	240
0.60	23	12	16	15	33	12	37	33	38	40	40	32	331
0.50	37	25	26	28	39	21	53	46	56	58	52	44	485
0.40	61	41	40	44	56	32	74	63	76	84	78	69	718
0.30	99	71	57	71	83	60	120	106	108	126	120	113	1134
0.20	164	118	101	123	135	111	195	167	154	189	189	182	1828
0.10	301	231	213	225	257	225	301	270	251	310	353	302	3239
0.005	713	590	631	654	594	579	635	597	610	713	729	749	7794
* ≤ 0.004	372	399	454	396	491	471	450	488	440	372	321	336	4990
Total No. of Days	1085	989	1085	1050	1085	1050	1085	1085	1050	1085	1050	1085	12784

* Including rainless days.

Table IV. Accumulated Frequencies of Daily Rainfall Amounts (in inches) 1916-50

MONTROSE

Daily Totals	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	All Months
2.70									1				1
2.60									1				1
2.50									1				1
2.40									1				1
2.30									1				1
2.20							1		1	1			3
2.10				1			1		1	1			4
2.00				1		1	1		1	2			6
1.90				1		1	1		1	2			6
1.80				1	1	1	1	2	1	2			9
1.70				1	2	1	1	3	1	2			11
1.60				1	2	1	1	3	1	3	1		13
1.50				1	2	1	2	3	1	4	1		15
1.40				1	2	1	2	4	2	5	2		19
1.30	1			1	2	2	3	5	3	5	2		23
1.20	1			2	2	2	3	7	8	8	3		36
1.10	1	1		3	2	3	4	8	9	9	3	1	44
1.00	2	2	1	3	3	3	5	8	12	12	4	5	60
0.90	3	2	2	4	4	3	10	11	15	15	8	5	82
0.80	5	4	3	7	10	5	17	15	24	20	14	6	130
0.70	8	7	5	11	16	7	29	26	33	28	19	11	200
0.60	12	10	7	16	20	11	41	36	36	40	25	23	277
0.50	28	20	16	21	29	20	60	53	47	61	37	36	428
0.40	55	34	31	36	43	35	78	74	68	73	66	57	650
0.30	91	56	49	59	84	55	114	109	93	107	107	98	1022
0.20	158	110	92	98	142	105	162	156	141	176	167	143	1650
0.10	277	209	182	197	242	194	272	261	230	278	296	268	2908
0.005	563	498	488	481	472	429	516	496	460	565	580	562	6110
*≤ 0.004	522	491	597	569	613	621	569	589	590	520	470	523	6674
Total No. of Days.	1085	989	1085	1050	1085	1050	1085	1085	1050	1085	1050	1085	12784

* Including rainless days.

Table IV. Accumulated Frequencies of Daily Rainfall Amounts (in inches) 1916-50

ABERFELDY

Daily Totals	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	All Months
4.20						1							1
3.50						1							1
2.70						1	1						2
2.60			1			1	1			1			4
2.50			1			1	1			1			4
2.40			1			1	1			1			4
2.30			1			1	1			1			4
2.20			1			2	1			1			5
2.10			1			2	1			1			5
2.00			1			2	1			2			6
1.90			1			2	1			2		1	7
1.80			1			2	1			2		1	7
1.70			1			2	1	1		2	2	1	10
1.60	2	1	1			2	1	2	1	3	2	1	16
1.50	2	1	1		1	2	2	2	3	5	2	1	22
1.40	3	2	1		2	2	2	3	4	5	2	4	30
1.30	5	3	2	1	2	3	2	3	6	5	4	9	45
1.20	9	5	4	1	3	4	4	6	6	9	5	16	72
1.10	14	6	5	1	4	4	7	7	8	12	9	19	96
1.00	17	6	5	2	7	7	10	9	10	23	12	23	131
0.90	27	9	8	4	9	10	14	12	12	31	19	32	187
0.80	37	13	9	6	13	12	20	20	19	40	26	43	258
0.70	54	20	13	7	21	15	24	29	26	55	38	55	357
0.60	74	36	20	13	25	23	41	44	34	72	50	79	511
0.50	102	52	27	24	39	33	56	59	48	96	80	100	716
0.40	144	86	46	44	61	40	78	80	70	120	114	125	1008
0.30	189	135	80	76	94	60	112	117	114	167	160	162	1466
0.20	273	195	142	128	147	108	175	175	163	228	229	239	2202
0.10	417	292	245	218	256	199	304	276	271	358	345	365	3546
0.005	742	588	556	546	546	489	602	604	582	707	669	701	7332
* $\leq$ 0.004	343	401	529	504	539	561	483	481	468	378	381	384	5452
Total No. of Days	1085	989	1085	1050	1085	1050	1085	1085	1050	1085	1050	1085	12784

* Including rainless days.

Table IV. Accumulated Frequencies of Daily Rainfall Amounts (in inches) 1916-50

PERTH

Daily Totals	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	All Months
2.70							1/						1/
2.60							1						1
2.50							1						1
2.40							1						1
2.30							1						1
2.20							1						1
2.10							1						1
2.00							1						1
1.90							2						2
1.80							3						3
1.70							4					1	5
1.60							4	1				1	6
1.50							4	1	1	1		1	8
1.40						1	5	2	1	1	1	1	12
1.30					1	1	6	6	3	2	1	1	21
1.20					3	2	7	9	6	3	4	2	36
1.10				1	3	3	9	9	9	5	5	2	46
1.00	2	1	3	4	5	3	10	10	13	9	6	3	69
0.90	4	2	4	6	6	3	13	14	15	11	7	4	89
0.80	7	5	8	6	11	3	23	20	17	21	11	7	139
0.70	12	8	10	8	13	7	31	24	24	34	17	13	201
0.60	23	14	15	11	20	15	37	31	32	44	23	18	283
0.50	38	24	24	16	31	23	56	52	49	65	36	36	450
0.40	71	43	38	28	44	39	74	80	63	86	65	56	687
0.30	107	79	62	52	76	67	114	121	95	122	113	103	1111
0.20	194	141	108	95	137	117	179	175	146	194	170	166	1822
0.10	343	240	205	183	251	208	288	269	238	321	284	287	3117
0.005	637	502	500	463	514	450	545	551	521	614	592	598	6487
* ≤0.004	448	487	585	587	571	600	540	534	529	471	458	487	6297
Total No. of Days	1085	989	1085	1050	1085	1050	1085	1085	1050	1085	1050	1085	12784

* Including rainless days.

/ Actual value 3.42 inches.

Table V. Maximum Daily Rainfall in inches

	Period	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Balmoral	1904-1963	1937 2.65	1925 1.29	1909 1.96	1907 1.76	1943 1.60	1917 1.73	1918 1.68	1945 1.74	1912 1.85	1906 2.10	1906 2.50	1914 2.26
Aberdeen	1912-1963	1931 1.24	1926 1.10	1933 1952 1.56	1934 2.19	1943 1.79	1935 2.14	1929 2.58	1916 2.31	1927 2.76	1941 3.01	1951 2.51	1929 2.30
Montrose	1900-1963	1900 1.60	1926 1.10	1958 1.77	1934 2.12	1943 1.86	1931 2.06	1916 2.23	1916 1.85	1927 2.72	1960 2.35	1951 2.11	1957 1.57
Aberfeldy	April 1907-1963*	1912 3.82	1915 1.83	1928 2.66	1960 1.62	1960 2.27	1935 4.25	1916 2.72	1910 2.18	1962 1.73	1939 2.61	1951 3.47	1914 2.29
Perth	1900-1963+	1960 1.80	1903 1.68	1958 1.67	1910 1.70	1909 1.62	1931 1.40	1916 3.42	1900 2.14	1956 1.69	1939 1.52	1951 1.53	1957 1.84

* 1926 missing. Various sites.

\+ Various sites.

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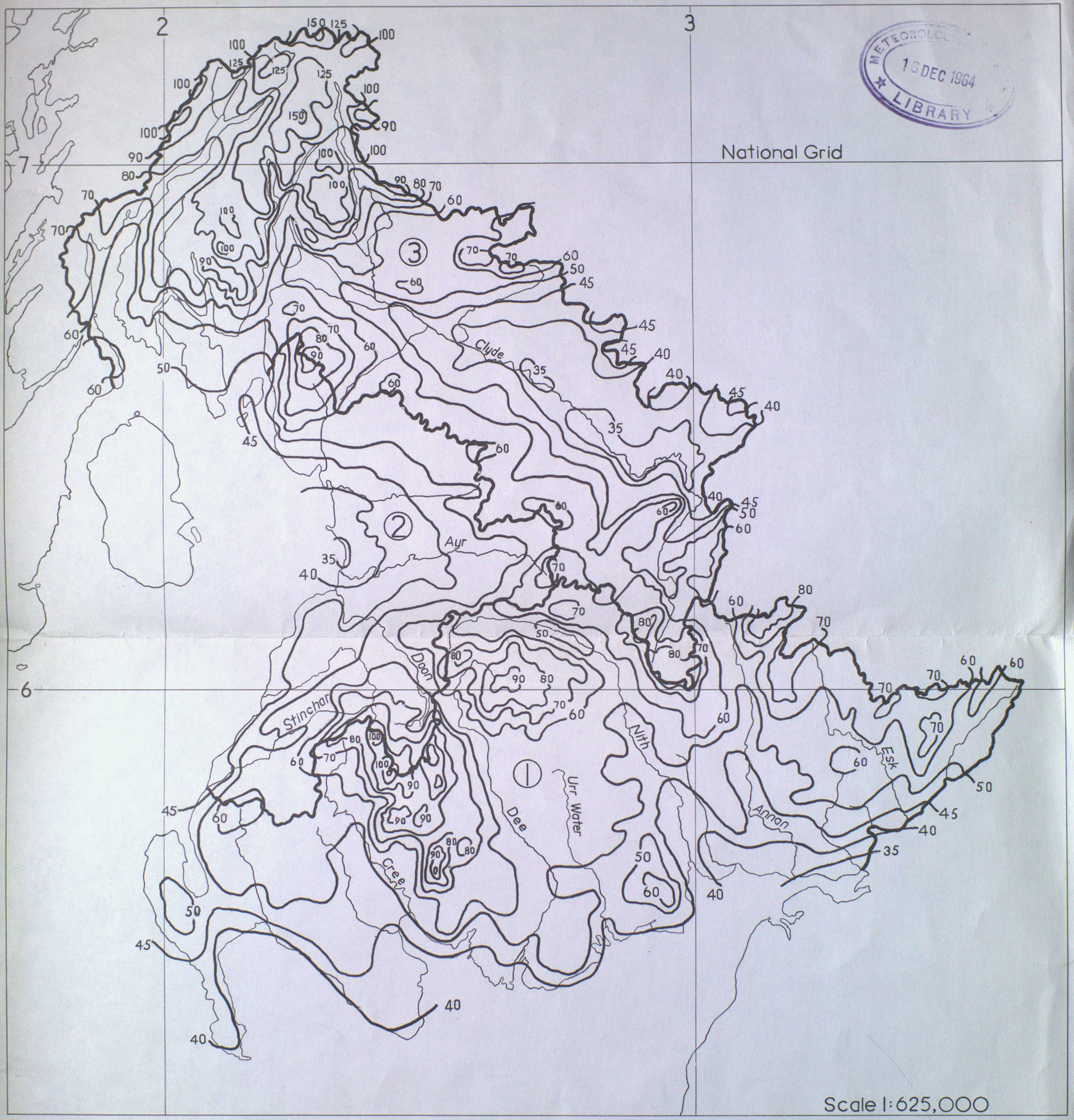

Fig 2. AVERAGE ANNUAL RAINFALL, 1916-1950, (in inches) over the hydrometric areas of:

① 77 Esk (Dumfriesshire)
78 Annan
79 Nith
80 Dee (Galloway)
81 Cree

② 82 Doon
83 Irvine and Ayr

③ 84 Clyde
85 Leven (Dumbartonshire)
86 Firth of Clyde
87 Fyne

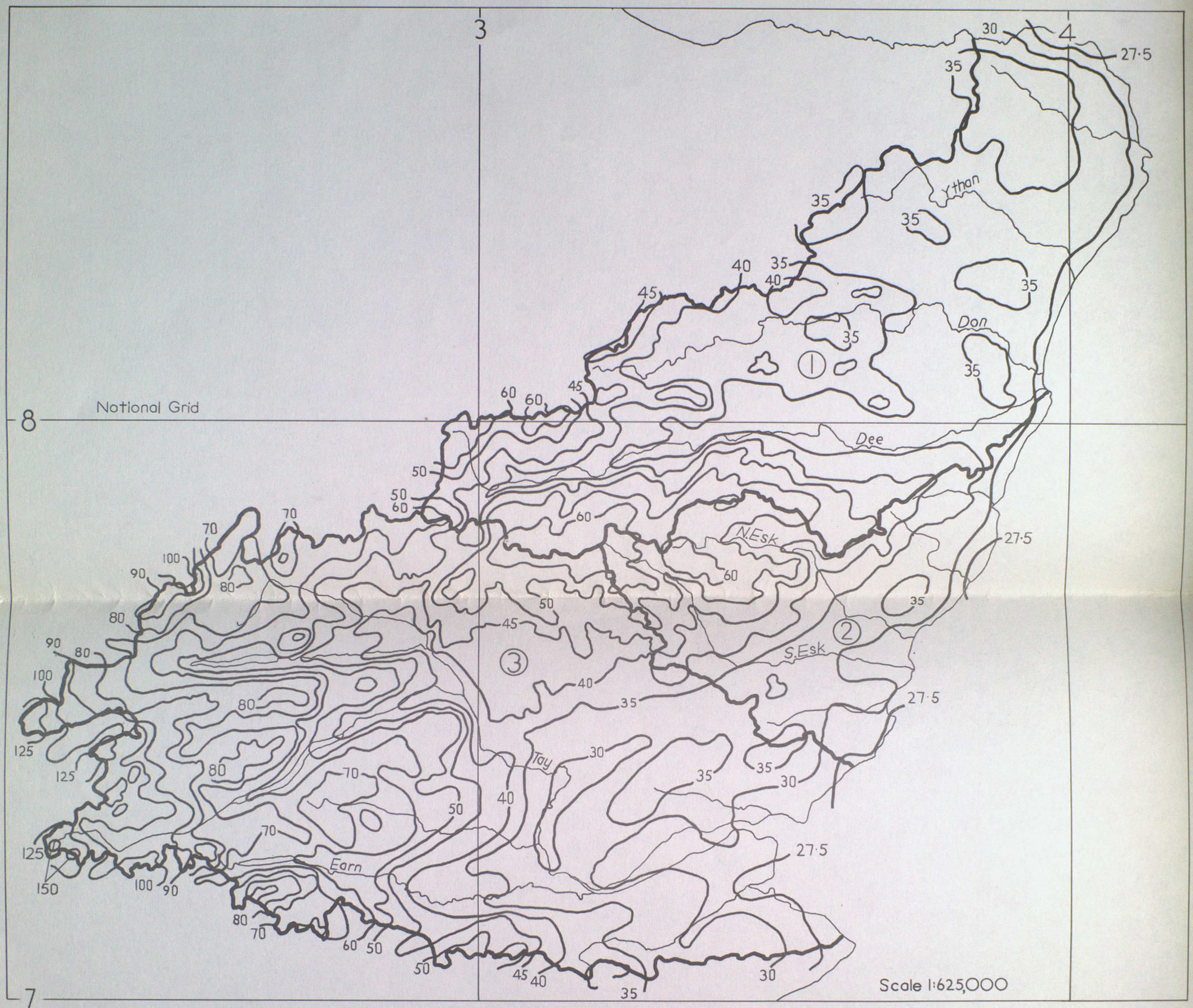

Fig 2 AVERAGE ANNUAL RAINFALL, 1916–1950, (in inches) over the hydrometric areas of :

①	②	③
10 Ythan	13 Esk	14 Firth of Tay
11 Don (Aberdeenshire)		15 Tay
12 Dee (Aberdeenshire)		16 Earn

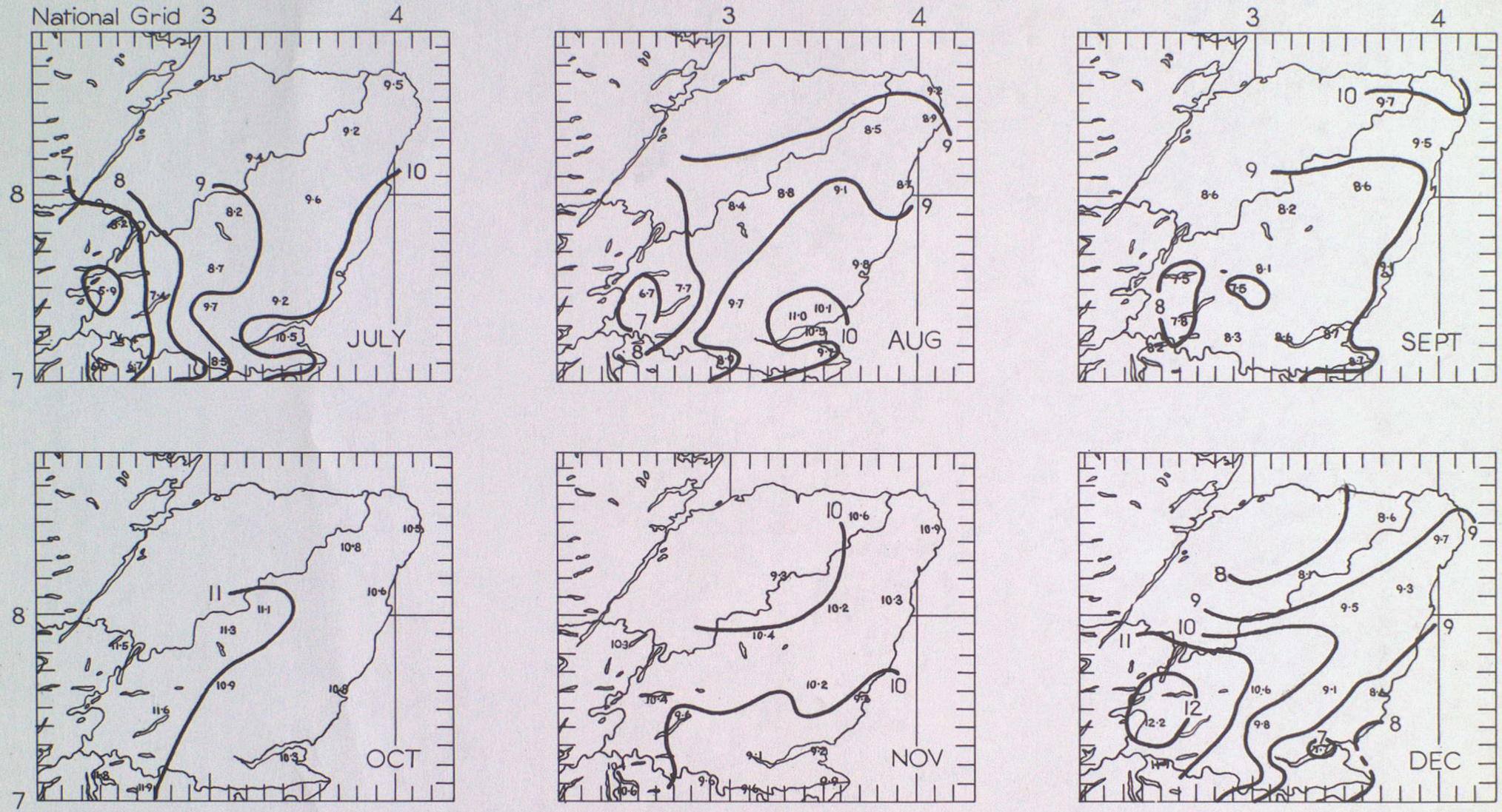

Fig 1 Average Monthly Rainfall as a percentage of Average Annual Rainfall, 1916-1950, July to December

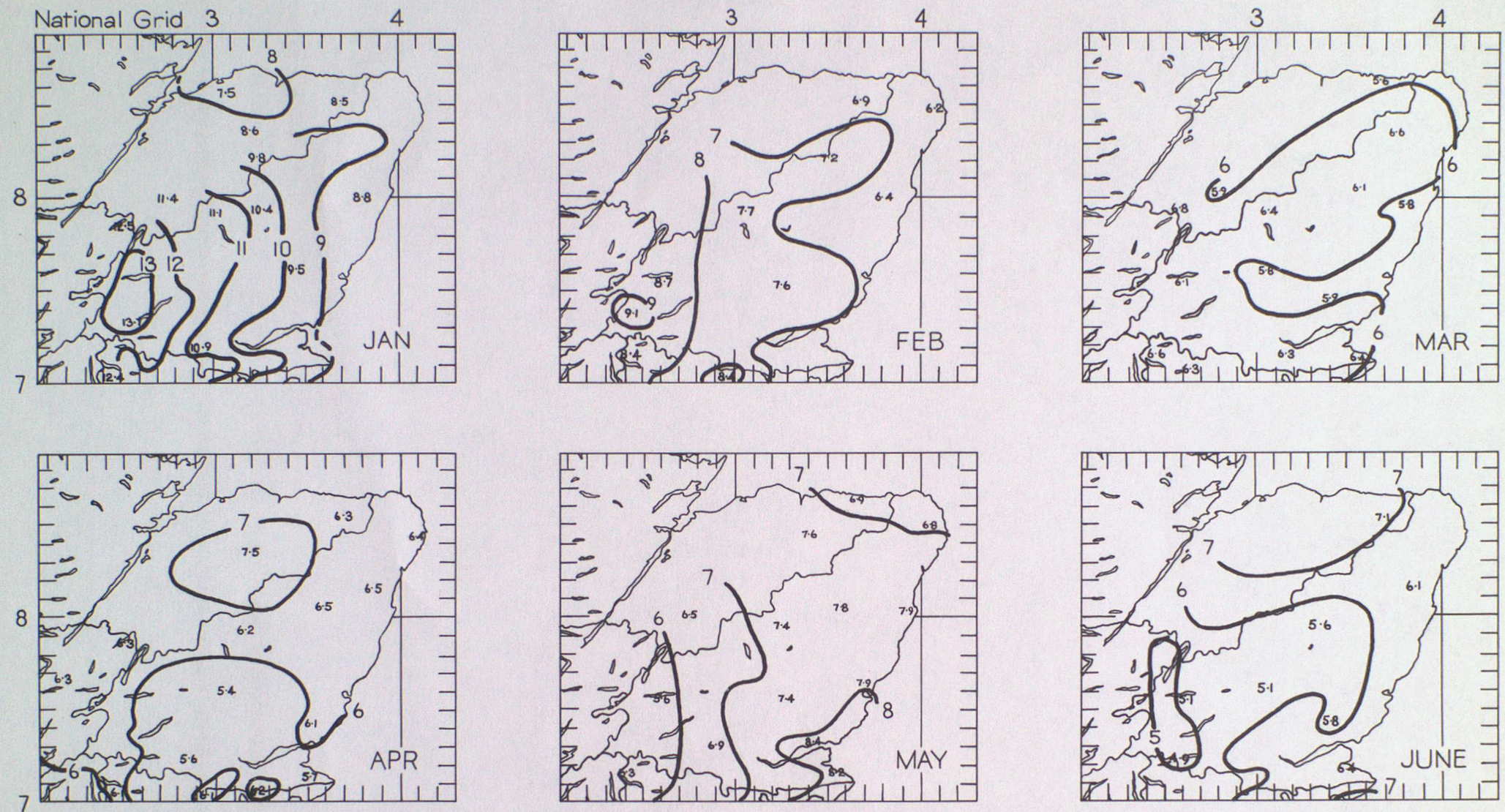

Fig 1 Average Monthly Rainfall as a percentage of Average Annual Rainfall, 1916-1950, January to June